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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/675,731

09/29/2003

Min-Hon Rei

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7590

06/21/2005

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EXAMINER

HAILEY, PATRICIA L

ART UNIT

PAPER NUMBER

1755

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/675,731

Applicant(s)

REI ET AL.

Examiner

Patricia L. Hailey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Applicants' remarks and amendments, filed on January 18, 2005, have been carefully considered. Non-elected claims 1-23 have been canceled; no new claims have been added.

Claims 24-35 remain pending in this application.

Withdrawn Objections and Rejections

The objection to claim 35 stated in the previous Office Action has been withdrawn in view of Applicants' amendment to this claim.

The 112(1 and 2) rejections of claims 24-35 stated in the previous Office Action have been withdrawn in view of Applicants' amendments to the instant claims.

The 102(b) rejection of claims 28-35 as being anticipated by Jenkins (U. S. Patent No. 4,897,253) stated in the previous Office Action has been withdrawn in view of Applicants' amendments and arguments traversing these rejections.

Maintained Rejection

1. *Claims 24-27 stand rejected under 35 U.S.C. 102(b) as being anticipated by von Hippel et al. (U. S. Patent No. 6,048,512).*

von Hippel et al. teach a coating dispersion comprising a member selected from the group consisting of platinum group metals (e.g. platinum, palladium, rhodium, ruthenium, etc.) and particulate nitrides (e.g., boron nitride). See col. 2, lines 33-55 of

von Hippel et al. (considered to read upon the “boron nitride supported noble metal catalyst”).

von Hippel et al. also disclose the employment of carrier liquids for preparing the coating dispersion. Examples of these include aliphatic and aromatic hydrocarbons, esters, ketones, alcohols, and mixtures thereof. See col. 2, lines 56-63 of von Hippel et al. (considered to read upon the “solvent”).

The coating dispersion, as discussed above, is considered to read upon the claimed “paste”.

The coating dispersion is applied to moulded (sic) bodies such as spheres, pellets, sponge-like structures, monoliths, or tubes. See col. 4, lines 15-27 of von Hippel et al. Although von Hippel et al. disclose that the “moulded items...must possess no open porous structures”, it is assumed that this statement applies when the moulded bodies are reaction tubes or monoliths.

In view of these teachings, von Hippel et al. anticipate claims 24-27.

Response to Arguments

Applicants’ arguments traversing the aforementioned rejection have been considered but are not deemed persuasive for the following reasons:

Although Applicants’ state that the coating dispersion disclosed in von Hippel et al. “corresponds to the supported Pt/BN of the present invention”, and that the present invention is emphasized as being formed by (1) dissolving a noble metal in methanol,

(2) dispersing it (1) on boron nitride to form the supported Pt/BN, (3) suspending (2) in a solvent to form a paste, and (4) dispersing the paste (3) on a supporting material, Applicants' claims do not reflect items (1) through (4). The claims in their present form are directed to a boron nitride-supported noble metal catalyst suspended in a solvent to form a paste, said paste being dispersed on a supporting material. As discussed above, von Hippel et al. disclose what Applicants are presently claiming.

For these reasons, Applicants' arguments are not persuasive.

New Ground of Rejection

The following New Ground of Rejection is being made in view of the newly discovered reference to Japanese Patent No. 54-9694.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. *Claims 24-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent No. 54-009694 (Abstract provided).*

The Japanese Patent discloses a combustible gas sensor ("substance for a catalytic combustion") comprising a resistance material (prepared by forming a platinum resistance layer on a heat-resistant insulating base matter, and further forming an electric insulating layer thereon), upon which is applied a rhodium containing catalyst paste, which also contains boron nitride, and baking to form an oxidation catalyst layer. The gas sensor is sensitive to "a wide range of combustible gases including methane."

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This disclosure is considered to read upon Applicants' claimed "fuel" (claim 28) and the claimed examples thereof.

The "catalyst paste" of the Japanese Patent, because it contains rhodium (a known noble metal) and boron nitride, is assumed to also be "suspended in a solvent", thus reading on Applicants' claimed "paste". Further, the "resistance material" of the Japanese Patent is considered to read upon Applicants' "supporting material having said paste dispersed thereon", as well as the claim limitations regarding the supporting material.

Upon the availability of an English translation of the Japanese Patent, the Examiner will contact Applicants' Counsel to forward a copy thereof.

6. *Claims 28-31 and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over von Hippel et al. (U. S. Patent No. 6,048,512).*

von Hippel et al. are relied upon for its teachings in the above 102(b) rejection. Additionally, von Hippel et al. disclose that the dispersion exhibits a solids concentration of 10 to 300 wt. % of both metal and nitride powders, with reference to the carrier liquid (col. 2, line 64 to col. 3, line 2).

Although the coating dispersion of von Hippel et al. is disclosed as being useful in the production of hydrogen cyanide from hydrocarbons (e.g., methane; considered to read upon the claim limitation "a single hydrocarbon") and ammonia (col. 1, lines 11-15), as opposed to Applicants' claim limitation "for catalytic combustion of a fuel",

Applicants' claim limitation is considered a statement of intended use. Further, the teachings of von Hippel et al. meet the limitations of Applicants' claimed catalysts, in terms of components. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to reasonably expect the coating dispersion of von Hippel et al. to function as a catalyst for the combustion of a fuel, absent the showing of convincing evidence to the contrary.

Priority

7. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/777,488, filed on February 5, 2001.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

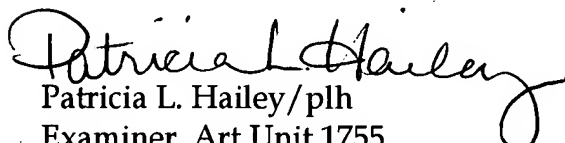
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-1369. The examiner can normally be reached on Mondays-Fridays.

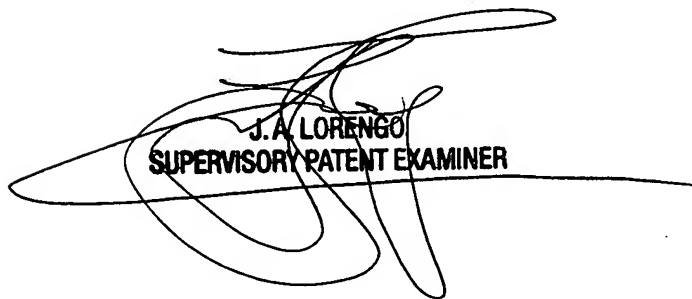
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Patricia L. Hailey/plh
Examiner, Art Unit 1755
June 10, 2005


J. A. LORENCO
SUPERVISORY PATENT EXAMINER